

ERRATUM

To: Avraham Feintuch, *On commutants of compact operators* 41(1974), 387–391.

Proposition 2 as stated is incorrect and leads to errors in Theorems 4 and 5. To give a correct statement of Proposition 2 the following definition is needed.

Definition. A sequence $\{N_k \mid 1 \leq k < \infty\}$ of subspaces $N_k \subset H$ is a basis of H if any vector $x \in H$ can be expanded in a unique way in a series of the form

$$x = \sum_{k=1}^{\infty} x_k$$

with $x_k \in N_k$, $\{N_k \mid 1 \leq k < \infty\}$ is an orthogonal basis if it is a basis and $N_i \perp N_j$ for $i \neq j$. $\{N_k \mid 1 \leq k < \infty\}$ is equivalent to an orthogonal basis if there exists an invertible operator A such that $\{AN_k \mid 1 \leq k < \infty\}$ is an orthogonal basis.

PROPOSITION 2'. *Let A be a compact operator. Then A is similar to an operator $B = \sum_{i=1}^{\infty} \oplus A_i$ where each A_i is a scalar plus nilpotent operator acting on a finite dimensional space such that $\sigma(A_i) \cap \sigma(A_j) = \emptyset$ for $i \neq j$ if and only if the set $\{N_\lambda\}$ of root spaces of A corresponding to non-zero eigenvalues of A is equivalent to an orthogonal basis of H .*

Proof. Let T be an invertible operator such that $\{TN_\lambda\}$ is an orthogonal basis for H . Since $N_\lambda \in \text{Lat } A$, $TN_\lambda \in \text{Lat } TAT^{-1}$ for all $\lambda \in \sigma(A)$. Thus $TAT^{-1} = \sum \oplus A_i$ where each A_i satisfies the required condition. On the other hand if A is similar to $\sum_{i=1}^{\infty} \oplus A_i$, let T be the similarity. The $\{TN_\lambda\}$ is an orthogonal basis for H .

The proof for Theorems 4 and 5 now work under the hypothesis that the root spaces of A form a basis equivalent to an orthogonal basis.

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